

Wednesday, 1/30/2008 7:53:00 AM
Kim Johnston

Process Sheet

8

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 212/205 HIGH AFT X-TUBE ASSEMBLY
Job Number	: 37058		
Estimate Number	: 10257		
P.O. Number	:	Part Number	: D212664201
This Issue	: 1/30/2008 S.O. No. :	Drawing Number	: D212-664-241 REV C
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: / / Type : LANDING GEAR	Drawing Revision	: C
Previous Run	: 37057	Material	:
Written By	:	Due Date	: 2/20/2008 Qty: 1 Um: Each
Checked & Approved By	: <u>2/08 01 30</u>		
Comment	: Est Rev:E 04.02.16 Reformat K/DS Est Rev:F 06-03-29 Remove Coments on Pick List JLM Est Rev:G 07-04-30 As per Rev C JLM		

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description:

1.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D212-664-201CHG003

08/04/09 08/02/01

2.0

D6006129

Crosstube material



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6006-129 Crosstube 26550

Check OD = 3.250"; ID = 2.220"

08/02/05

3.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA114

2-Turn first side as per Folio FA114

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241.

08/02/07

4.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

08/02/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Order: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 37058

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA114

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241. BG 08-02-27 (1)

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

BG 08-02-27

(1)

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

BG 08/02/27 (1)

8.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Remove sand and plugs

2-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-241

BG 08-02-27 (1)

9.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

AWM 8-3-12

1-Polish entire outside surface of crosstube

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

BG 08/03/12 (1)

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of machining

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC: Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Order: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 37058

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description:

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/03/26 (H)

13.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D212-664-241 using CNC bender program 212-af and Folio FT007

EL 8-3-26

14.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

0803-26 (H)

15.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551

2-Ream hole to finish size in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241

EL
8-3-27
AWM
8-4-1

16.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

AWM 8-4-1

Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of bending and drilling

17.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08/04/02 (H)

18.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/04/02 (H)

19.0

OUTSIDE SERV.10

OUTSIDE SERVICES -LG



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038

Issue P/O: 6062

LPI as per ASTM 1417 Level 2

08/04/03 (H)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Order: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 37058

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

Attach copy of NDT results to work order

20.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage Ensure copy of NDT results attached to work order.

08/4/08 3 (1)

21.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: DIMENSIONAL CHECK

Inspect for damage & ensure results are as per Dwg D212-664-241

08-04-07

22.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

08-04-07

23.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

08 04 08

(1)

24.0

D29401

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2940-1 Support *13 35582*

08 04 08

25.0

D3595

Rubber Cushion (per sq ft)



Comment: Qty.: 0.0242 sf(s)/Unit Total : 0.0242 sf(s)

Rubber Cushion (per sq ft)

.63" x 5.300

Batch: *35125*

08 04 08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 10:10:51 AM
User: Melanie Fauteux

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 212/205 HIGH AFT X-TUBE ASSEMBLY
Job Number	: 37058		
Estimate Number	: 10257		
P.O. Number	:	Part Number	: D212664201
This Issue	: 04/04/2008 S.O. No. :	Drawing Number	: D212-664-241 REV C
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: 30/01/2008 Type : LANDING GEAR	Drawing Revision	: C
Previous Run	: 37057	Material	:
Written By	:	Due Date	: 20/02/2008 Qty: 1 Um: Each
Checked & Approved By	:		
Comment	: Est Rev:E 04.02.16 Reformat K/DS Est Rev:F 06-03-29 Remove Coments on Pick List JLM Est Rev:G 07-04-30 As per Rev C JLM		

Additional Product

REFERENCE ONLY

Job Number:



Seq. #:	Machine Or Operation:	Description :
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27.0	CROSSTUBES	CROSSTUBES RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1

1-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs

A/R 6398 Magnobond Batch: 106695 Time: 11:30AM

Expiry Date: 04/2009

ml 08 04 08 ①

2-Install clamps as per Dwg D212-664-241. Torque clamps to 80-100 in lb.

Job Completion



Date: Wednesday, 1/30/2008 7:53:00 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 37058

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

26.0

MS2192028

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-28

Clamp

106864

ml 09 04 08

27.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs

A/R 6398 Magnobond

Batch:

Expiry Date:

2-Install clamps as per Dwg D212-664-241. Torque clamps to 80-100 in lb.

See Previous Sheet
08/04/09

28.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/04/09 (X)

29.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

30.0

D34281

Placard



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Placard

Batch:

37088

SP

31.0

AN640A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch:

M107008

8/9/9

SP

(X)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 1/30/2008 7:53:00 AM

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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 37058

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0

AN641A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch: M104427

SP

33.0

AN960JD616

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Washer

Batch: M106552

SP

34.0

MS21042L6

Nut



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Nut

Batch: M105077

8/4/09

SP

(14)

35.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

08/04/09 (46)

36.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Identify and pack for shipping as per PPP D212-664-201

Rev D

08/04/09 (46)

37.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/04/14 (46)

Job Completion

MF
W

08-04-16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order: 37058
Description: Crosstube Assembly (205/212 High Aft)	Part Number: D212-664-241
Inspection Dwg: D212-664-241 Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

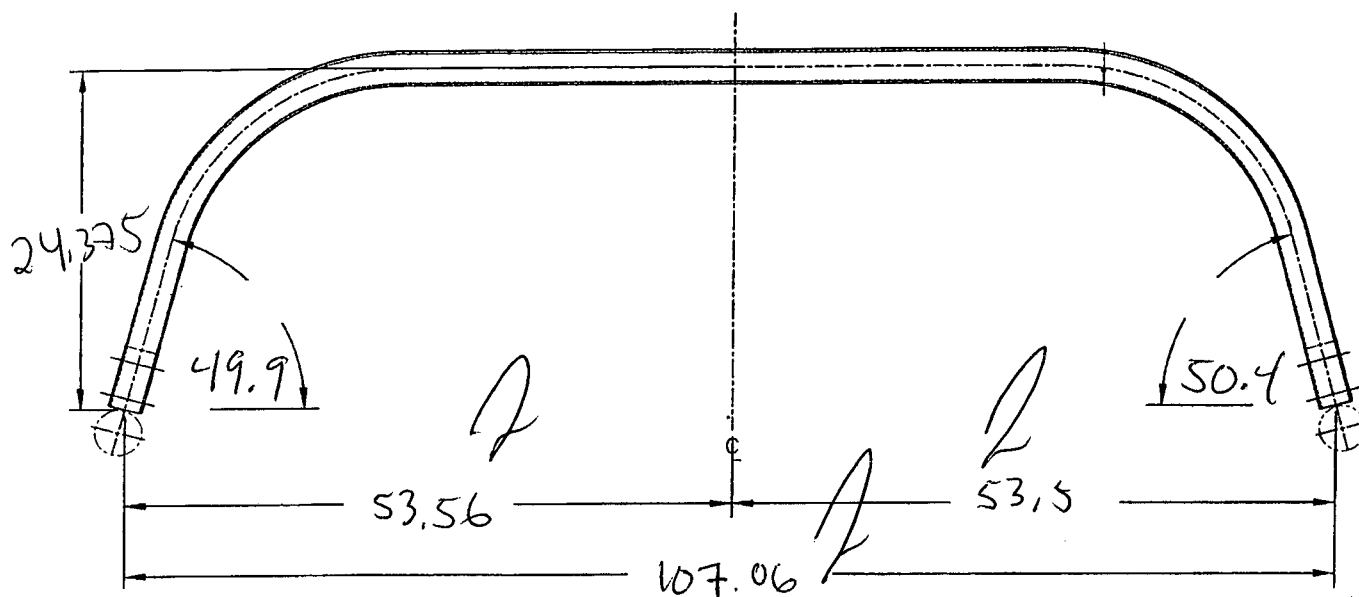
Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	0.200	✓		
	R0.063	+/-0.010	0.063	✓		
	2.990	+0.005/-0.000	2.994	✓		
	5.237	+/-0.030	5.237	✓		
	2.600	+0.005/-0.000	2.604	✓		
	2.686	+0.005/-0.000	2.690	✓		
	2.770	+0.005/-0.000	2.774	✓		
	2.854	+0.005/-0.000	2.858	✓		
	2.938	+0.005/-0.000	2.942	✓		
	3.021	+0.005/-0.000	3.025	✓		
	3.133	+0.005/-0.000	3.137	✓		
	3.179	+0.005/-0.000	3.182	✓		
SIDE B	0.200	+/-0.010	0.200	✓		
	R0.063	+/-0.010	0.063	✓		
	2.990	+0.005/-0.000	2.994	✓		
	5.237	+/-0.030	5.237	✓		
	2.600	+0.005/-0.000	2.605	✓		
	2.686	+0.005/-0.000	2.690	✓		
	2.770	+0.005/-0.000	2.774	✓		
	2.854	+0.005/-0.000	2.858	✓		
	2.938	+0.005/-0.000	2.942	✓		
	3.021	+0.005/-0.000	3.025	✓		
	3.133	+0.005/-0.000	3.137	✓		
	3.179	+0.005/-0.000	3.182	✓		
	124.36	+/-0.020	124.36	✓		

Measured by: SG	Audited by: [Signature]	Prototype Approval:	N/A
Date: 08.02.27	Date: 08/02/27	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-201)	KJ/JLM	
B	06.03.09	Tolerance for 5.237 was +/-0.001	KJ/JLM	
C	07.05.08	Dwg Rev. updated	KJ/JLM [Signature]	[Signature]

DART AEROSPACE LTD		Work Order:	37058
Description: Crosstube High Aft (205/212)		Part Number:	D212-664-201
Inspection Dwg: D212-664-241 Rev: C		Page 1 of 1	

Required Dimension	Min	Max
Height	24.17	24.43
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70



Comments

QC15 Inspection	<i>[Signature]</i>
Date	080326

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. C	KJ/JLM <i>[Signature]</i>	<i>[Signature]</i>

DART**RELEASED**
07.04.24 P
PER E.C.N 2259

DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED J	APPROVED [Signature]	DRAWING NO. D212-664-241	REV. C SHEET 1 OF 3
DATE 07.03.08		TITLE CROSSTUBE ASS'Y (205/212 HI AFT) NTS	
A	00.12.12	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	
C	07.03.08	REMOVE -1009 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	

Qty	Part Number	Description
X	D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
1	D6006-129	CROSSTUBE
2	D2940-1	SUPPORT
4	D3595-063-530	RUBBER CUSHION
4	MS21920-28	CLAMP (OR MS21920-30)
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947- 100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

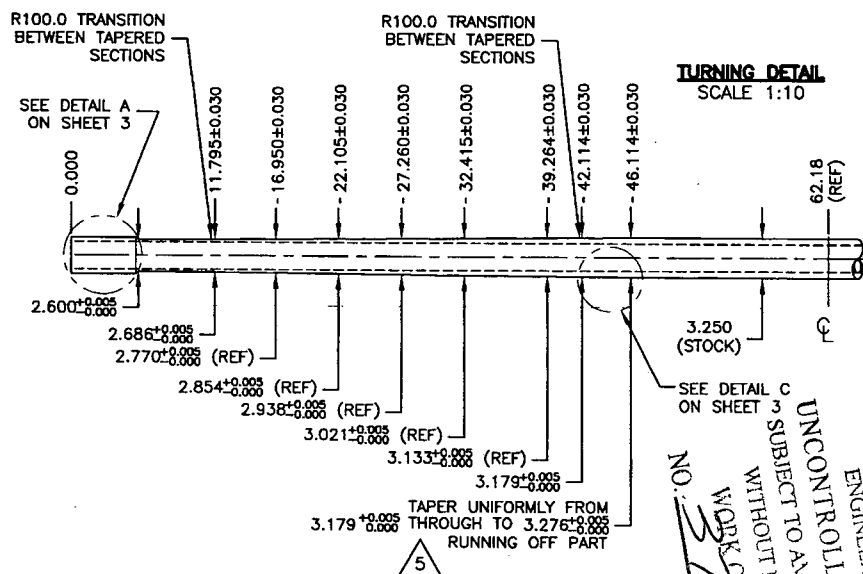
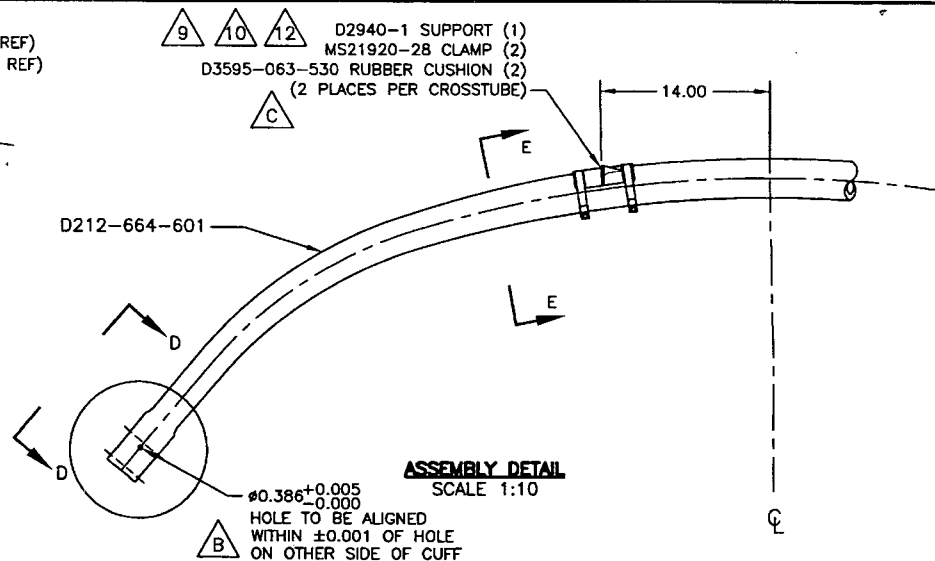
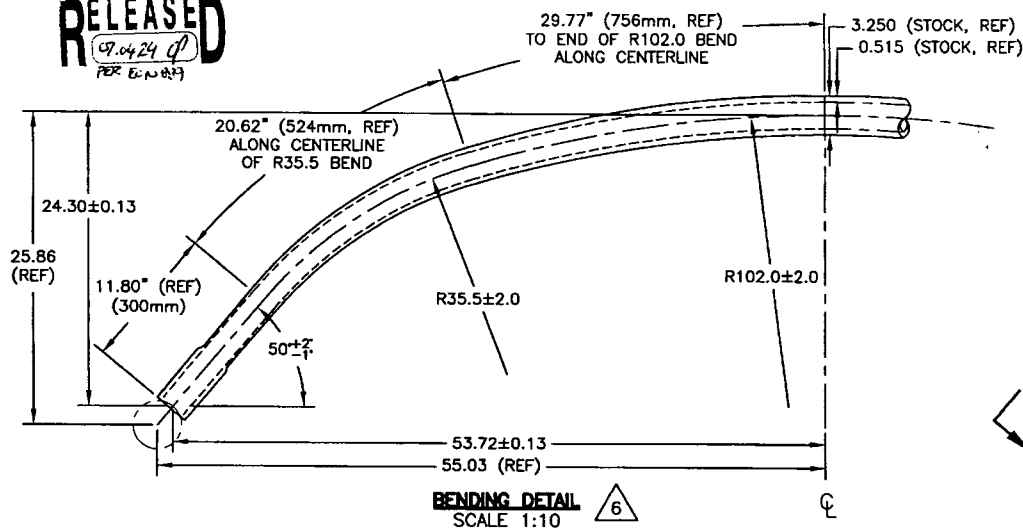
- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) MATERIAL: MANUFACTURED FROM D6006-129
FINISHED LENGTH = 124.36 ± 0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 10) INSTALL MS21920-28 CLAMPS WITH D3595-063-530 RUBBER CUSHIONS TO SECURE D2940-1 SUPPORT ON TOP SIDE OF CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT
NOTE: MS21920-30 CLAMPS CAN BE USED TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF 1.5 THREADS IN SAFETY ON THE NUTS.
- 11) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 37058

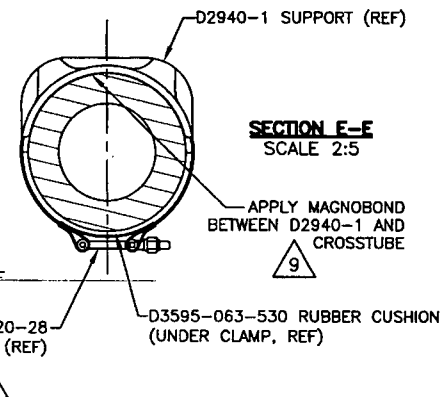
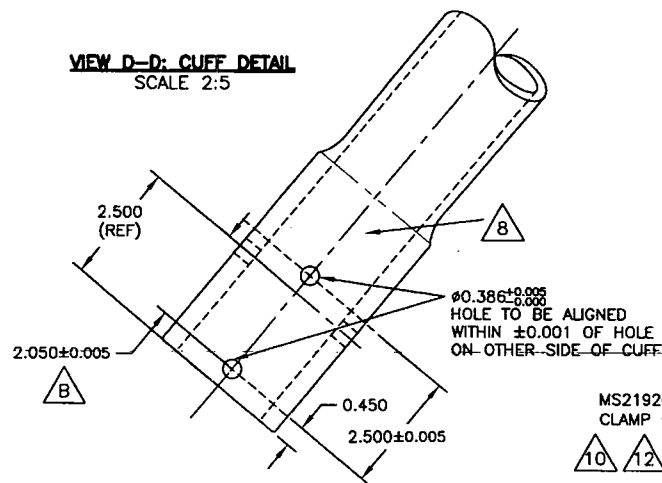
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RELEASED
07.04.24
PER E-20-24



VIEW D-D: CUFF DETAIL
SCALE 2:5



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DESIGN PH

DRAWN BY PH

DART

DART AEROSPACE LTD.
HAMMERSLEY, ONTARIO, CANADA

CHECKED J

APPROVED A

DRAWING NO.
D212-664-241

REV. C
SHEET 2 OF 3

DATE

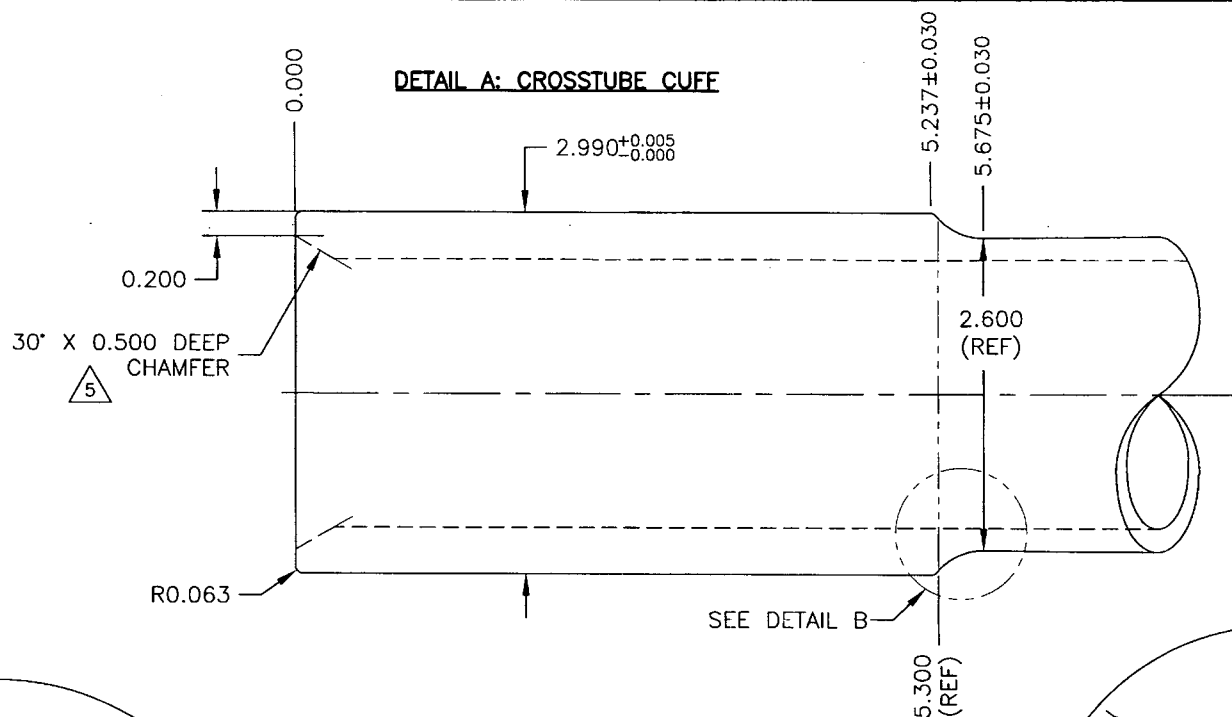
07.03.08

TITLE
CROSSTUBE ASS'Y (205/212 HI AFT) SCALE
1:10

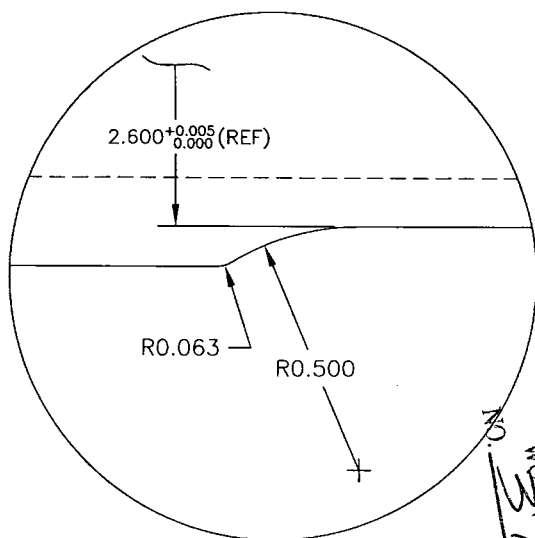
NO. 37058
WORK ORDER
SUBJECT TO AMENDMENT
WITHOUT NOTICE
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY

RELEASED
07.04.24
PER ECN 889

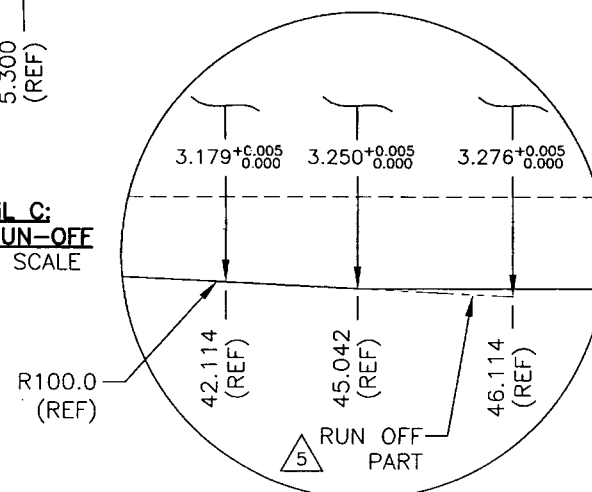
DETAIL A: CROSSTUBE CUFF



**DETAIL B: CUFF
TRANSITION**
SCALE 4:1



**DETAIL C:
TAPER RUN-OFF**
NOT TO SCALE



NO. 370558
SHOP COPY
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ENGINEERING
UNCONTROLLED COPY
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DESIGN PH	DRAWN BY PH	DART DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D212-664-241
DATE 07.03.08	TITLE CROSSTUBE ASS'Y (205/212 HI AFT)	REV. C SHEET 3 OF 3 SCALE 1:1



LIQUID PENETRANT TEST REPORT

P - 1263 1

CLIENT	DART AEROSPACE	DATE	APR 3, 2008	PAGE	1	OF	1
ATTENTION	LINDA LACELLE	ACUREN JOB No.	188 08 1263	TIME	AM <input type="checkbox"/>	PM <input type="checkbox"/>	
ADDRESS	1270 ABERDEEN ST	PO/VO No.					
	HAWKESBURY, ONT.	WORK LOCATION	HAWKESBURY				
		ACCEPTANCE STD.	ASTM 1417/QSI-038	REV./DATE	2005		
PROJECT	407 FWD X TUBE, 212/205 HIGH AFT/FED X TUBE,						
ITEM(S) EXAMINED	JOB #S 407-37001, 37004, 212/205 37056, 37058, 37689, 37690.						

JOB DESCRIPTION	PROCEDURE No. LT-0002	REV./DATE	TECHNIQUE No. LT-TECH2	REV./DATE
PART No. D407667105/D212664201/D212664101	MATERIAL ALODINED ALUM.		THICKNESS	
SCOPE WET FLOURESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON 100% EXTERNAL SURFACE				

TEST DETAILS

METHOD	<input checked="" type="checkbox"/> FLUORESCENT	<input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH	<input type="checkbox"/> SOLVENT REMOVABLE	<input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND	MAGNAFLUX		BLACK LGHT8171	<input type="checkbox"/> OUTPUT > 1000 μ W/cm ²	<input type="checkbox"/> AMBIENT < 2 fc
PENETRANTZL67	MINIMUM DWELL TIME	45 MIN.	LIGHTING EQUIP.	<input type="checkbox"/> FLASHLIGHT	<input type="checkbox"/> TROUBLELIGHT
PENETRANT REMOVER H2O	MINIMUM DRY TIME	>10 MIN.	OTHER	CAL FEB 12 08	
DEVELOPER SKDS2	MINIMUM DWELL TIME	10 MIN.	LIGHT METER S/N	CAL DUE DATE	
DEVELOPER TYPE	<input checked="" type="checkbox"/> NON AQUEOUS	<input type="checkbox"/> AQUEOUS	<input type="checkbox"/> DRY		

TEST SURFACE

SURFACE CONDITION	<input type="checkbox"/> AS GROUND	<input type="checkbox"/> AS WELDED	<input type="checkbox"/> MACHINED	<input type="checkbox"/> SHOT BLASTED	<input checked="" type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE	<input type="checkbox"/> < -4°C/ 20°F	<input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F	<input type="checkbox"/> 10°C/50°F TO 52°C/125°F	<input type="checkbox"/> > 52°C/125°F	

RESULTS- (☐ METRIC ☒ IMPERIAL)

FLUORESCENT LIQUID PENETRANT INSPECTION

CARRIED OUT ON 100% EXTERNAL

SURFACE ON:

407 FWD X TUBE JOB#S: 37001, 37004.

212/205 HIGH AFT X TUBE JOB#S: 37056, 37058.

212/205 HIGH FED X TUBE JOB#S: 37689, 37690.

25 08 04 07

RESULTS: NO INDICATION OF DEFECTS.

ITEMS ACCEPTABLE TO STANDARD

Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner operator and the owner operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE		DTR # E21525	
TECHNICIAN (SIGNATURE):		REPORT REVIEWED BY:	
NAME (PRINT):	JASON HEWETT	NAME INITIALS	
	1 ST TECHNICIAN		
CGSB LEVEL 2	SNT LEVEL	CGSB LEVEL	SNT LEVEL
CGSB REG. No 6156		CGSB REG. No	

WHITE - CLIENT COPY

CANARY - OFFICE COPY

PINK - TECHNICIAN COPY

GOLD - OFFICE COPY